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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,781	08/24/2001	Rong C. Fang	026473.106-US01	9032

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WASHINGTON, DC 20004-2401

EXAMINER	
MEW, KEVIN D	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/935,781	FANG, RONG C.	
	Examiner	Art Unit	
	Kevin Mew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In particular, please make appropriate correction to "Embodiments of the present invention described" in line 1 of the abstract. Also, the abstract of the disclosure should not include the title of the instant application.

Claim Objections

2. Claims 5, 19 are objected to because of the following informalities:

Please add a "period" at the end of the each of claims 5 and 19. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Bux et al. (USP 4,726,018).

Regarding claim 1, Bux discloses an apparatus (see the communication system structure, Fig. 1) to perform a method for transporting data (for transmitting data on ring 11, see col. 3, lines 1-58 and Fig. 1), comprising:

transmitting, through Synchronized Packet-based Trunk (Ring Attachment RA which includes Ring Insert Switch Circuitry and Ring Access Control circuitry, see col. 3, lines 1-58), data to communication ring (transmission of data on the ring, see col. 3, lines 34-39), wherein the communication ring employs Dynamic Bandwidth Sharing; and

transporting, through the communication ring, the data (any active station receives all data signals passing on the ring, see element 11, Fig. 1 and applies its own data signals to the next section of the ring, see col. 3, lines 1-58).

Regarding claim 2, Bux discloses an apparatus to perform a method for transporting data, comprising:

transporting, through a communication ring employing Dynamic Bandwidth Sharing, data (providing priority access to a transmission ring so as to provide efficient utilization of

system bandwidth at high speeds and allowing new calls if voice bandwidth is not exceeded, see col. 2, lines 8-14 and col. 10, lines 39-52); and

receiving, through a Synchronized Packet-Based Trunk (Ring Attachment), the data from the communication ring (receiving data at the Ring Attachment from ring 11, col. 3, lines 1-58).

Regarding claim 3, Bux discloses an apparatus to perform a Synchronized Packet-Based Trunk method for transporting data (a frame header transmitted on the ring includes a free token indication, followed by a sequence of "1" bits to maintain synchronization, see col. 4, lines 29-55), comprising:

transmitting a Frame Synchronization Packet through a communication channel at the beginning of a Frame Cycle (a frame, which contains a voice packet, is transmitted at voice cycle), wherein the Frame Cycle has a predetermined duration (voice cycle has fixed intervals, see col. 10, lines 57-67);

accumulating a set of synchronous data (voice samples are accumulated, see col. 10, lines 57-67);

accumulating a set of asynchronous data (video data are stored in video buffer, see col. 11, lines 1-67);

transmitting the set of synchronous data through the communication channel during the Frame Cycle (voice samples are transmitted at fixed intervals, see col. 10, lines 57-67); and

transmitting a portion of the set of asynchronous data through the communication channel during the Frame Cycle (video data are transmitted during the voice train, see col. 11, lines 47-67 and Fig. 8), wherein the portion is selected responsive to the size of the Frame Synchronization

Packet (size of the voice frame), the size of the transmitted set of synchronous data (the length of the asynchronous data traffic), and the duration of the Frame Cycle (voice cycle, see Fig. 8).

Regarding claim 4, Bux discloses an apparatus to perform the Synchronized Packet-Based Trunk method for transporting data of Claim 3, wherein the transmitted set of synchronous data is transmitted in at least one TDM Packet (synchronous voice are transmitted in different time divisions or voice cycles of 10 ms, see Fig. 8).

Regarding claim 5, Bux discloses an apparatus to perform the Synchronized Packet-Based Trunk method for transporting data (a frame header transmitted on the ring includes a free token indication, followed by a sequence of "1" bits to maintain synchronization, see col. 4, lines 29-55) of Claim 3, wherein the transmitted portion of asynchronous data is transmitted in at least one Asynchronous Data Packet (asynchronous data are transmitted in asynchronous data packet, see col. 4, lines 10-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6-14, 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jurkevich et al. (USP 5,164,938) in view of Ikeda (USP 5,636,212).

Regarding claims 6, 20, Jurkevich discloses an apparatus to perform a Dynamic Bandwidth Sharing method (Bandwidth seizing process) for regulating bandwidth on a communication ring (for bandwidth reallocation during periods of traffic congestion, see col. 6, lines 3-67), comprising:

assigning, to each node of a plurality of nodes on a communication ring, a Maximum Over-subscription Bandwidth (each service point in the network is assigned a maximum bandwidth, see col. 21, lines 36-47 and col. 22, Table IV);

adjusting, at each node of the plurality of nodes, the Access Bandwidth after the node receives a congestion signal (bandwidth seizing is initiated when traffic congestion is indicated, see col. 6, lines 3-67); and

adjusting, at each node of the plurality of nodes, the Access Bandwidth after the node receives a congestion cleared signal (progressively allow more traffic when bandwidth seizing is ceased, see col. 32, lines 5-22).

Jurkevich does not explicitly show setting, at each node of the plurality of nodes, an Access Bandwidth, wherein the Access Bandwidth is initially equal to the Maximum Over-subscription Bandwidth.

However, Ikeda discloses an ATM network (see Fig. 8) in which maximum bandwidth is set in all links of the path (see col. 1, lines 42-61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bandwidth seizing process of Jurkevich with the teaching of setting a maximum bandwidth to ATM nodes in Ikeda such that the bandwidth of each node will initially be set to the maximum bandwidth. The motivation to do so is to reserve a maximum bandwidth to make burst transmission to be possible in all links of a path.

Regarding claims 7, 21, the combined system of Jurkevich and Ikeda discloses all the aspects of the claimed invention set forth in the rejection of claim 6 above. Jurkevich further discloses the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising assigning, to each node of the plurality of nodes, an Acceptable Over-subscription Bandwidth (each service point in the network is assigned a minimum bandwidth, see col. 21, lines 36-47 and col. 22, Table IV). Jurkevich does not explicitly show the Access Bandwidth of each node is not adjusted to a value less than the Acceptable Over-Subscription Bandwidth of that node. However, Jurkevich discloses a minimum bandwidth being set at each node is a guaranteed bandwidth that the bandwidth adjustment will not allow the bandwidth to drop below the minimum guaranteed bandwidth level (see col. 21, lines 36-47 and col. 22, Table IV). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify the combined system of Jurkevich and Ikeda such that the bandwidth seizing process will not adjust the access bandwidth of each node to be less than the minimum guaranteed bandwidth requirement at each node. The motivation to do so is to ensure adequate bandwidth is allocated at each node for transmission of frames so that a minimum quality of service will not be violated.

Regarding claims 8, 22, Jurkevich discloses an apparatus to perform the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 7, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive to the position of the node in the communication ring (traffic flow control and therefore bandwidth seizing occurs when the link associated with the node in the network path exceeds a predetermined threshold level and thus bandwidth depends on the position of the node, see col. 6, lines 3-67), a randomizing process (BW seizing is initiated when statistical aberration occurs in which an unusually large number of already allocated channels are simultaneously sending data, see col. 28, lines 64-67 and col. 29, lines 1-9), a duration of Congestion (BW seizing continues until the there is no more traffic congestion, see col. 31, lines 28-41), the Acceptable Over-subscription Bandwidth (Minimum Guaranteed Minimum Bandwidth), and the Maximum Over-subscription Bandwidth (Maximum Bandwidth, see col. 21, lines 37-47 and Table IV).

Regarding claims 9, 23, Jurkevich discloses an apparatus to perform the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive

to the position of the node in the communication ring (traffic flow control and therefore bandwidth seizing occurs when the link associated with the node in the network path exceeds a predetermined threshold level and thus bandwidth depends on the position of the node, see col. 6, lines 3-67).

Regarding claims 10, 24, Jurkevich discloses an apparatus to perform the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the node receives a congestion signal is responsive to a randomizing process (BW seizing is initiated when statistical aberration occurs in which an unusually large number of already allocated channels are simultaneously sending data, see col. 28, lines 64-67 and col. 29, lines 1-9).

Regarding claims 11, 25, Jurkevich discloses an apparatus to perform the Dynnmic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6 wherein adjusting the Access Bandwidth after the node receives a congestion cleared signal is performed at predetermined intervals until the Access Bandwidth is adjusted to a value equal to the Maximum Over-subscription Bandwidth for the node.

Regarding claims 12, 26, Jurkevich discloses the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, wherein adjusting the Access Bandwidth after the node receives a congestion cleared signal is responsive to a randomizing process (BW seizing is initiated when statistical aberration occurs in which an unusually large

number of already allocated channels are simultaneously sending data, see col. 28, lines 64-67 and col. 29, lines 1-9).

Regarding claims 13, 27, Jurkevich discloses an apparatus to perform the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising generating, at each node of the plurality of nodes and responsive to Congestion at the node, the congestion signal (see col. 6, lines 27-55).

Regarding claims 14, 18, Jurkevich discloses an apparatus to perform the Dynamic Bandwidth Sharing method for regulating bandwidth on a communication ring of Claim 6, further comprising generating, at each node of the plurality of nodes and responsive to clearing Congestion at the node, the congestion cleared signal (see col. 7, lines 1-20).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure with respect to apparatus and method for facilitating data packet transportation.

US Patent 5,696,764 to Soumiya et al.

US Patent 4,817,088 to Adams

US Patent 5,768,271 to Seid et al.

US Patent 5,949,789 to Davis et al.

US Patent 6,788,681 to Hurren et al.

US Patent 6,104,714 to Baudelot et al.

US Patent 5,245,605 to Ofek

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER

KDM
Art Unit 2664